

Memorandum

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To: **ALL DESIGN SENIORS**
Structure Design
Geotechnical Services
Structure Design Services & Earthquake Engineering
Division of Engineering Services

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Subject: Type Selection Review Meeting for Earth Retaining Structures

Memo to Designers 1-29, dated July 2001, defines the purpose of the Type Selection Review Meeting (Type Selection) and identifies the necessary participants from within the Division of Engineering Services. The Type Selection is a critical milestone in the structure design process as it ensures consensus on the proposed structure and identifies potential problems to be addressed early in the project development process. A Type Selection is required for all bridge structures and as such the process is tailored to that type of structure. In addition, a Type Selection may be conducted for certain miscellaneous structures, including earth retaining systems, if the Structure Project Engineer (PE) and their supervisor agree that the design, aesthetic, or functional requirements are unique.

The number of earth retaining structures being delivered by Structure Design on a project-by-project and overall program basis is rapidly increasing. The primary reason for this is that these structures are becoming increasingly complex due to restricted right-of-way, unique loading conditions, environmental considerations and other project constraints. These issues are further compounded by cost and constructability considerations. The PS&E delivery of these complex structures, which are defined as Special Design earth retaining structures in Highway Design Manual (HDM) Topic 210, are the responsibility of Structure Design. In addition, HDM Topic 210 identifies the Structure PE as being responsible for Type Selection of special design earth retaining structures with appropriate consultation with the Geotechnical Design Engineer and the District PE.

A Type Selection for these types of structures would be beneficial for the Structure PE and Structure Design to ensure, just as in bridge structures, that the most appropriate structure is chosen for the site that meets the needs of the project. However, the range of special design earth retaining structures that are delivered by Structure Design is such that a Type Selection may not be required for all instances. Therefore, based on the above, a Type Selection shall be required for all structures defined by HDM Topic 210 as special design earth retaining systems. This shall include, but not be limited to, soil nail, tieback, MSE, and Standard Plan walls with modified geometry or foundations, but shall not include walls that conform entirely to the Standard Plans.

The Type Selection for these structures should be conducted at the same time as the bridge Type Selection. This may not be possible in all cases as survey and geotechnical data may not be available for each structure at the time of bridge Type Selection. Additionally, scope creep often adds new wall structures after the bridge Type Selection has been conducted. In these instances, the Structure PE should consult with their supervisor to determine if a new Type Selection is necessary. In either instance, the Structure PE should consult the Earth Retaining Systems Specialists, Mr. Overcomer Hor and Mr. Kevin Riley. If a formal Type Selection is not conducted it is advisable, for purposes of documentation, that the Structure PE prepare a Type Selection Memo for routing through at least their supervisor, Office Chief and the Earth Retaining Systems Specialist.

The above guidelines are interim until Memos to Designers 1-29 is revised. Implementation of these procedures is immediate for new projects for which the bridge type selection has not been conducted. If the project is on-going or bridge Type Selection has already been conducted, the Structure PE should review the type of structure earth retaining system selected at each location and determine if a Type Selection should be conducted.

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